

A Ladybird 'Easy Reading' Book
'People at Work'



ON THE RAILWAYS





A Ladybird
'Easy-Reading' Book
Series 606B

Here is another interesting Ladybird book which will help to answer the many questions children ask.

A relatively simple vocabulary, large, clear type and superb, full-colour illustrations are used to give accurate information about the jobs of those men and women who work on our railways, and about the modernisation that is taking place.

*The publishers wish to acknowledge the assistance of
British Rail when preparing this book.*

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'People at Work'
**ON THE
RAILWAYS**

by JOHN FORBES

with illustrations by JOHN BERRY



Ladybird Books Ltd Lough

ON THE RAILWAYS

The first public railway to use a steam locomotive was opened one hundred and fifty years ago. It ran in the north of England from Stockton-on-Tees through Darlington to the Auckland collieries. James Watt had discovered a way of making a wheel go round by using the power of steam. This discovery was used in the steam engine which pulled the train.

Motor cars had not been invented at that time. The train was the first form of transport in which people could travel more quickly than they could in their horse-drawn coaches.



In the early days, a man named George Stephenson made the best steam engines and built the best railways. His most famous engine was called *The Rocket*.

It was not long before people in other countries realised how useful railways were. By the year 1860, railway tracks were being laid in countries all over the world.

Railway engines, or locomotives as they are called, were driven by steam power for over a hundred years. Today, locomotives driven by diesel engines or electric motors are used to pull passenger and goods trains. The picture shows a modern diesel locomotive.



Stations are places where trains stop (remain *stationary*). They enable passengers to get on and off the train and allow goods to be loaded or unloaded.

Some stations, like the one in the picture, are very large. They have many platforms, offices, waiting rooms and shops. There are also places where people can eat and drink while they are waiting for a train.

Other stations are very small, with only one little station building and, perhaps, only one platform. You will see stations like this on branch-lines in country districts. Many of the less-used ones are now closed.



A large station, or a group of smaller ones, is looked after by a 'station manager'. In years gone by he was called a 'station master' and wore a top hat and tail-coat. A modern station manager wears a dark grey suit. He also has a cap with a gold band round the peak and three gold stripes at the sides and around the back.

The station manager works in an office and has assistants and clerks to help him. He is in charge of all the station arrangements and of all the other people working in and around the station.



Not very long ago, men who worked on or near a station had many different titles. There was the porter, crossing-keeper, station lampman, train attendant, signal lampman and timekeeper. Now, all these men come under the one title of 'railman'.

A little higher up the scale is the 'leading railman'. A leading railman can be a senior porter, excess luggage collector, leading luggage room attendant, shunter, ticket collector and interpreter.

Next there is the 'senior railman'. In this grade are the foreman and head shunter.



Railmen have many jobs to do on the station platforms. They assist with the arrival and departure of trains. They give the 'right-away' signal to the train guard when all the passengers are aboard and the doors are closed. They load and unload parcels. These are taken to and from the train on trolleys. Sometimes several trolleys are pulled by a tractor.

Railmen also have to keep the station clean and tidy. It is surprising how much litter people leave lying around on the platforms. Helping passengers with their luggage, collecting tickets and putting up notices and posters are other jobs the busy railman has to do.



Most main-line stations have a public address system. An announcer speaks into a microphone and his voice can be heard all over the station through loudspeakers. He or she tells the waiting passengers the times of the trains, which platforms they must go to and all kinds of other useful information.

The station announcer sometimes has to give special messages. He may even have to send out a call for a parent or a child if they have lost one another amongst the crowd. He will probably tell them to meet at the station manager's office.



Before you go on a train journey, you must buy a ticket. Many large stations now have their own ticket-printing machines. The machine has a lighted, glass panel on which are marked the names of the most popular stations. The ticket clerk moves a pointer to the name of the station required. The machine then issues the ticket with all the information printed on it.

Machines like these are usually put into very modern ticket offices with large 'picture' windows. These offices are taking the place of the old kind of 'hole-in-the-wall' windows which were very small. Some stations also have coin-operated ticket machines.



When you have bought a ticket, you can go to the train. But first, you must pass through a gate, or barrier. Here you must show the ticket to a ticket inspector before going on the platform. At the end of the journey you hand the ticket to a ticket collector as you leave the platform.

Sometimes passengers are able to enter or leave platforms without going through a barrier. These are known as *open* platforms. Between stations with open platforms the tickets are inspected or collected on the train while it is travelling.



The train driver is a very important person. All the passengers rely on him to take them safely to the end of their journey. He is very highly trained and must understand all the signalling systems along the track.

In the days of steam trains there were two people in the driving cab. One to look after the coal fire and the other to drive. Only one man is needed to drive a diesel or electric-powered train or locomotive. But on some long-distance and goods trains a second man is carried as a relief driver.



A guard travels on all trains. He gives the 'right-away' signal to the driver to take the train out of the station, and generally sees that everything is in order.

Some passenger trains, travelling between stations with open platforms, carry a conductor guard. He combines the work of guard with that of a travelling ticket collector. Conductor guards also work on trains calling at very small branch-line stations. On these trains they may actually issue the tickets like a bus conductor.

This arrangement saves having ticket offices at some small country stations.



Many changes are taking place in train signalling. Coloured light signals now give drivers four different warnings. Red is for *Danger*; at this signal the driver must stop his train. Yellow is for *Caution* (be prepared to stop at next signal). Two yellow lights together mean that the driver must be prepared to find the next signal at *Caution*. Green is for *Clear*. This system of lights is known as *multiple aspect* signalling.

All these lights are controlled from modern, electric, push-button signal boxes. Each box controls many miles of route.

Of course, there are many of the older type of signal boxes still working. In these the signalman has levers to pull. These work the well-known *semaphore* signal arms to show *Danger*, or *Caution*, and *Clear*.



British Rail are taking away as many level crossings as possible, especially on busy main roads. Where 'manned' crossings are still in use, it is the crossing keeper's job to open and close the gates. The gates are usually left open to road traffic, and the crossing keeper closes them when a train is due to pass.

There are also about two hundred *half-barrier* level crossings in Britain. These are worked through the train signalling system. When a train is coming, lights flash and bells ring to warn pedestrians and drivers of road vehicles that they must stop. Then the barrier poles are automatically lowered. Drivers and pedestrians must never try to go round the barrier poles.



Most long-distance passenger trains have a restaurant car. Passengers can be served with breakfast, lunch, afternoon tea or dinner, depending on what time of day they are travelling.

The stewards are very clever at serving the meals while the train is moving at high speed. Pouring out tea or coffee in a swaying carriage is not easy.

Some trains do not have a restaurant car. Instead there is often a buffet car where passengers can buy drinks and light refreshments.



Highly-skilled chefs work in the kitchen. This means that the meals served in the restaurant car can be freshly prepared and cooked.

Like the stewards, the chefs must do their work in a fast-moving train. The kitchen is small, with not much room for all the cooking that has to be done. Ask your mother how she would like to cook a three or four-course meal for about one hundred and fifty visitors in a small kitchen at home! It is even more difficult when the kitchen is moving.



On a long journey, a passenger can travel overnight in a sleeping car.

The sleeping compartments are cleaned and prepared before each journey. The beds are made up, fresh water is supplied and clean towels and soap placed in position. This work is done by women.

A sleeping car attendant travels on the train. He shows the passengers to their beds, or berths, serves late-night drinks and early-morning tea. He also has to call the passengers in the morning in time for them to dress and get off the train at their destinations.



The railway lines, or tracks, on which the trains run must be kept in first-class condition. Otherwise they would not be safe. Trackmen regularly inspect the lines and help to re-lay them when necessary. Nowadays re-laying is mostly done by machines. Trackmen also oil and grease the points and crossings. They help to clear snow and ice from those points and crossings which are not fitted with special heaters.

Where the old semaphore signals are still used, trackmen and other track workers carry out fog signalmen's duties. They place detonators on the line in foggy weather. These explode as the locomotive wheels run over them. This tells the driver to look out for the fog signalman's lamp and see whether it indicates Danger or Caution. If the signal is clear no detonator is used.



Many of our railway routes are served by fast, modern electric trains. On most routes, the electric power to drive the locomotive is supplied through overhead wires.

The overhead linemen are responsible for keeping catenary, meaning the wires and their supports, in good condition. They have to inspect them at regular intervals. Any faults they find must be reported.

The wires must not be allowed to sag downward too much. If they do, they have to be re-tensioned to make them tighter again



Like all mechanical things, railway locomotives, carriages and wagons (rolling stock) need to be serviced and repaired. Also, new and up-to-date ones have to be built. All this work is done in workshops owned by British Rail. They actually form part of a special company known as British Rail Engineering Limited.

In these workshops, skilled workmen do all the jobs necessary to keep the rolling stock in first-class working condition. As well as building new stock for British Rail, they also build containers for goods and carry out work for overseas railway companies.



Special equipment is used to keep our trains looking clean and smart. The outsides of the carriages are washed in the railway sidings by automatic train-washing machines. As a train enters the machine, it is sprayed with a solution to remove dirt and grease. It is then washed by revolving brushes and finally sprayed with water.

Carriages also get dirty inside from all the tobacco ash and litter that some untidy passengers leave lying about. Cleaning staff are employed at all big terminal stations. They make sure that everything is tidy for the new passengers when they enter the train.



Nowadays, carrying goods and freight by rail is often done in very large containers. The containers are transported on lorries to the Freightliner depot. Then they are transferred by huge gantry cranes to the specially-built rail wagons.

Driving these cranes is a very skilled job. The driver has to move the crane to exactly the right position so that the container can be lifted off the lorry and onto the wagon. An experienced driver can transfer a container in less than two minutes.



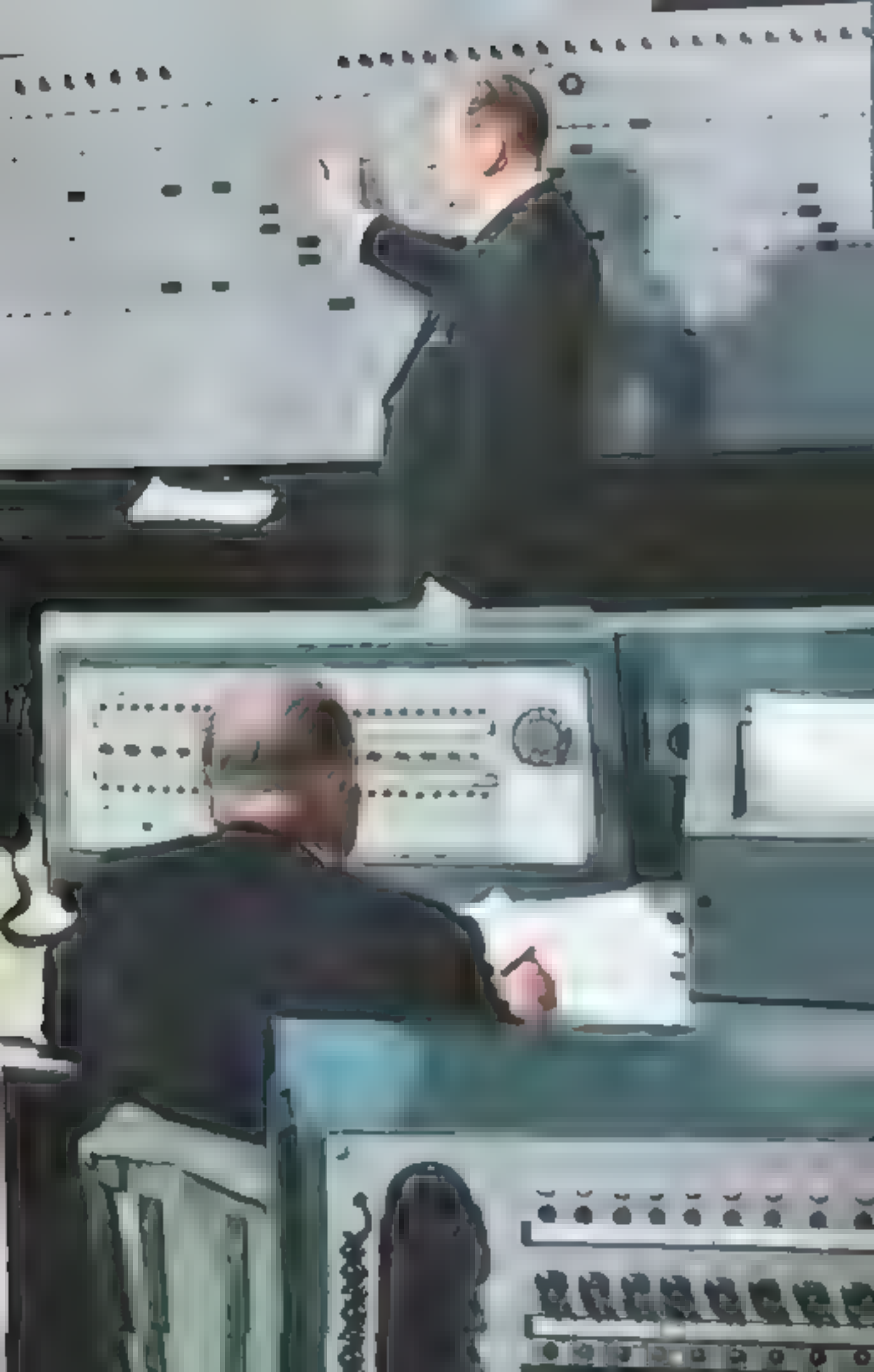
We all know that accidents can sometimes happen however careful we try to be. On the railways a breakdown gang of six to ten men is used to deal with such emergencies. They use a breakdown train. This has a 45 or 70-ton lifting crane, a tool van and a 'messing' coach. In the messing coach the men can rest and have refreshments. The train also carries metal-cutting equipment, crowbars, axes, spanners, drills and jacks.

Members of the breakdown gang are trained to deal with any kind of accident that might happen. They work quickly to get the line cleared and ready for use again



Controlling a huge transport system like the railways is a very complicated job. The people in charge of the different train control centres, offices, signal boxes, marshalling yards and passenger terminals must all be able to keep in touch with one another.

British Rail's telecommunications network employs a large number of people. It is second only in size to the Post Office system. Through this network go the instructions and information to keep hundreds of trains running day and night throughout Britain. They must keep running safely and efficiently so that people can get to their destinations.



Pictures of steam trains may look strange to you. In times to come our own diesel and electric trains will look old-fashioned. New ideas are always taking shape in the Advanced Projects Laboratory of British Rail. Here you see the Advanced Passenger Train (A.P.T.) that has been developed. The train can be powered by gas turbine engines, or electric motors, which give speeds up to one hundred and fifty miles an hour on existing tracks.

Many other ideas for the future are being worked out in the Railway Technical Centre at Derby. About two thousand people work there. Over half of them are scientists, engineers and technicians.





Series 606B



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